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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,303	09/15/1999	ALEJANDRO H. SCHWARTZMAN	CISCP092X1/1	7238

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EXAMINER

TRAN, KHANH C

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/11/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/396,303

Applicant(s)

SCHWARTZMAN ET AL.

Examiner

Khanh Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 21 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 16 and 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Request for Continued Examination (RCE) and the Amendment D filed on 01/22/2004 have been entered. Claims 1-18, 21 and 25-30 are pending in this Office action. New claims 25-30 have been added. Claims 19-20 and 22-24 have been cancelled without prejudice.

Response to Arguments

2. Applicant's arguments, see pages 6-8 of the Amendment D, filed on 01/22/2004, with respect to the rejection(s) of claim(s) 1-5, 8-15, and 17-18 under 35 U.S.C 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Wang U.S. Patent 6,160,571.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 8-15, 17-18, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571.

Regarding claim 1, Wang discloses in figure 2 a CATV transceiver circuit wherein the transmitter section 32 of the transceiver 30 (column 6, lines 21-60) includes a Psave control signal 110 that is effectively used as a transmitter enable signal, the Psave control signal 110 corresponding to the control line as claimed in the patent application, an AGC amplifier 102 implemented using an NEC UPC3211 AGC Amplifier and configured to be controlled directly by the Psave signal 110. When enabled by the Psave signal 110, the amplification function of the AGC amplifier 102 is enabled through on-chip bias circuit 106 and on-chip AGC amplifier 104. The driver 108 is controlled by a control line 112, which, in turn, is controlled by the Psave signal 110 through a bias circuit 106.

Wang does not disclose a switch component capable of being enabled and disabled by the control signal as claimed in the patent application.

Nevertheless, Wang further discloses in figure 6 (column 10, lines 21-52) another embodiment of utilizing an electronic switch 144 in conjunction with a conventional RF isolation transformer 142. The differences between the two embodiments are that in figure 6, the Psave control signal 110, transmitter enable signal, controls directly both the electronic switch 144 and the driver 108, and the Psave control signal 106 does not controls single-ended buffer/amplifiers. Meanwhile, in the first embodiment of figure 2, as recited above, the Psave control signal 106 directly controls the amplication function of the AGC amplifier 102. In light of Wang teachings, the claimed features are an obvious variation of the two embodiments. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the transmitter

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circuit 32 in figure 2 could be modified to include an electronic switch and an RF transformer as taught in figure 6 since the modification would not have any impact on the transmitter operation. Furthermore, the switch would help further prevent the generation of any unnecessary and unwanted noise injected into the cable plant.

Regarding claim 2, in figure 6 the electronic switch 144 is implemented as a plurality of switches.

Regarding claim 3, Wang further discloses in column 10, lines 36-52, that the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 6) when transmission of an RF signal is enabled.

Regarding claim 4, Wang further discloses that when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 5, as recited in claim 4, the switch 144 is attached to a 75-ohm resistive load during periods of RF reception, corresponding to a shunt switch attached to a resistor.

Regarding claim 8, referring to figure 6, the switch 144 is not contained in any other component in the transmitter.

Regarding claim 9, in column 10, lines 36-52, Wang further discloses that the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled.

Regarding claims 10 and 18, the claim is rejected using similar rejection argument of claim 1. Furthermore, the Psave 110 controls directly the amplification function of the AGC amplifier 102 in the embodiment of figure 2, and the Psave signal 110 controls directly the electronic switch 114. As recited in claim 1, modifying the transmitter circuit 32 in figure 1 to include the electronic switch 114 and the RF isolation transformer 142 would not have any operational impact on the transmitter circuit 32 of the first embodiment. In light of the combining teachings, the Psave signal 110 controls directly both the electronic switch 114 and the AGC amplifier 102 for enabling both components for transmitting data upstream, and disabling both components after transmitting data upstream.

Regarding claim 11, referring to figure 6, the Psave signal 110 asserts a control line 112 to activate the electronic switch 114.

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Regarding claim 12, referring to figure 6, the electronic switch 144 selectively couples one end of the second winding of a RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40 (shown in figure 2) when transmission of an RF signal is enabled. That end of the second winding of a RF isolation transformer 142 corresponds to the series switch as claimed in the patent application.

Regarding claim 13, the switch 144 connecting to a 75-ohm resistive load, corresponding to the shunt switch, is open when transmission of an RF signal is enabled.

Regarding claim 14, referring to figure 6, when the state of the PSAVE control signal 110 is set to disable transmission, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground, thus establishing a fixed termination characteristic for the transmitter portion of the diplexer circuit 40 during periods of RF reception.

Regarding claim 15, during periods of RF reception, the switch 144 connects the Transmit RF Out lead of the diplexer circuit 40 through a 75-ohm resistive load to an RF signal ground. That effectively disconnects a data signal path to a diplexer circuit 40.

Regarding claim 17, the AGC amplifier 102 in figure 2 is a variable amplifier.

Regarding claims 25 and 26, referring to figure 6, the Psave control signal 110 controls both the electronic switch 144 and the driver 108. The driver 108 effectively enables and disables single-ended buffer/amplifiers. In column 10, lines 36-52, the driver 108 is selectively enabled by the Psave control signal 110 on the control line 112, which is also supplied to an electronic switch 144 that selectively couples one end of the second winding of the RF isolation transformer 142 to the Transmit RF Out lead of the diplexer circuit 40. From the foregoing discussion, one of ordinary skill in the art would appreciate that the electronic switch 144 and the driver 108 are performed in synchronized manner. Therefore, it clearly suggests that for the combining teachings as argued in claims 10 and 18, the electronic switch 144, the driver 108, and the AGC amplifier 102 are also performed in synchronized manner.

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang U.S. Patent 6,160,571 as applied to claim 1 above, and further in view of Bowyer et al. US Patent 6,307,597 B1.

Regarding claim 6, Wang's teachings show the driver 108 and the AGC amplifier 102 implemented on separate chips. However, with the advance of the IC technology, it would have been obvious for one of ordinary skill in the art at the time of invention that the switch 144 and the AGC amplifier 102 could be integrated into the same IC circuit. Boyer et al. invention discloses the claimed feature in another US patent, the tag insertion circuit 20 in figure 2 includes a pulse switch 50 comprising an RF switch 60 and a switchable amplifier 62. The switchable amplifier 62 and the RF switch 60 are on

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a same chip. Hence, Boyer et al. teachings reinforce the Examiner's arguments that the switch component and the amplifier could be integrated into a single unit.

Regarding claim 7, the AGC amplifier 102 is a variable amplifier wherein the amplification is set by a TX VAGC signal.

Allowable Subject Matter

5. Claims 16,27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 21 is allowed.

Regarding claim 21, said claim is directed to a method of reducing noise leakage from a cable modem onto a cable plant. The claim is allowed because the prior art of record could not show the steps of "determining whether an amplifier in the cable modem can enable at a sufficient speed to not cause data packet collisions" and "activating only the switch component if the amplifier cannot enable at a sufficient speed".

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burns et al. U.S. Patent 6,662,135 B1 discloses « Method and Apparatus for Reflective Mixer Testing of Cable Modem».

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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